

Amendments to the Claims:

1. (Currently Amended) A process for the ~~preparation of~~ producing water-absorbent, foam-type polymer structures, ~~wherein an aqueous composition (A) comprising~~
consisting of the steps:

i) foaming an aqueous composition (A) by mechanical action or by the dispersion of an inert gas in the form of gas bubbles, wherein the aqueous composition (A) comprises

(A1) water,

(A2) one or more polymers based at least on

($\alpha 1$) from about 55 to about 100 wt.% of a polymerized, monoethylenically unsaturated, acid-group-containing monomer or its salt thereof,

($\alpha 2$) from 0 to about 45 wt.% of a polymerized, monoethylenically unsaturated monomer that is copolymerizable with ($\alpha 1$),

wherein the sum of the amounts by weight of ($\alpha 1$) and ($\alpha 2$) is 100 wt.% and wherein at least about 31.5 wt.% of the monomers, based on the total weight of the monomers ($\alpha 1$) and ($\alpha 2$), are acrylic acid or salts of acrylic acid,

(A3) one or more crosslinkers,

(A4) one or more blowing agents,

(A5) one or more surfactants,

(A6) and optionally further auxiliary substances,

~~is foamed by mechanical action or by the dispersion of an inert gas in the form of fine gas bubbles; and~~

ii) heating the foamed aqueous composition of step i) to is then heated at a temperature in a range of from about 50 to about 300°C, so that the polymer (A2) crosslinks at least partially and the content of water (A1) is adjusted to not more than about 15 wt.%, based on the total weight of the foam-type polymer structure that forms.

2. (Previously Presented) The process according to claim 1, wherein the foamed aqueous composition polymer has a number-average molecular weight of at least about 10,000 g/mol.

3. (Previously Presented) The process according to claim 1, wherein the foamed composition has a foam liter weight of from about 10 to about 1000 g/l.

4. (Previously Presented) The process according to claim 1, wherein the surface of the absorbent, foam-type polymer structure is smoothed in a further process step.

5. (Previously Presented) A water-absorbent, foam-type polymer structure obtainable by a process according to claim 1.

6. (Currently Amended) [[A]] The water-absorbent, foam-type polymer structure according to claim 5, wherein the polymer structure has at least one of the following properties:

(β1) an AUL (absorbency under load) of 0.9% NaCl solution under a load of 0.3 psi of at least about 10 g/g;

(β2) a rate of absorption of more than about 1 g/g/sec;

(β3) a maximum absorption capacity in a range of from about 20 to about 300 g/g;

(β4) a CRC (centrifugation retention capacity) in a range of from about 7.5 to about 100 g/g;

(β5) a mean pore size in a range of from about 0.01 to about 2 mm;

(β6) a mean pore density in a range of from about 60 to about 1200 g/m².

7. (Cancelled)

8. (Previously Presented) A composite comprising a water-absorbent, foam-type polymer structure according to claim 5 and a substrate.

9. (Previously Presented) A process for the production of a composite, wherein the foamed aqueous composition as defined in claim 1 is brought into contact with at least a portion of the surface of a substrate and the substrate brought into contact with the foamed aqueous composition is then heated at a temperature in a range of from about 50 to about 300°C so that the polymer (A2) crosslinks at least partially, the content of water (A1) is adjusted to not more than about 15 wt.%, based on the total weight of the foam-type polymer structure that forms, and the resulting foam-type polymer structure is immobilized on at least a portion of the surface of the substrate.

10. (Previously Presented) A process according to claim 9, wherein the substrate is selected from the group consisting of polymeric film, metal, nonwoven, fluff, tissue, woven fabric, natural fiber, synthetic fiber and foam.

11. (Previously Presented) A process according to claim 9, wherein templates are used during application of the foamed aqueous composition to the substrate.

12. (Previously Presented) A process for the production of a composite, wherein at least a portion of the surface of the water-absorbent, foam-type polymer structure obtained by the process of claim 1 is brought into contact with at least a portion of the surface of a substrate, and the polymer structure is then immobilized on at least a portion of the surface of the substrate.

13. (Previously Presented) A process according to claim 12, wherein the substrate is a thermoplastic sheet-form structure.

14. (Previously Presented) A composite obtainable by a process according to claim 9.

15. (Cancelled)

16. (Previously Presented) A chemical product comprising a water-absorbent, foam-type polymer structure according to claim 5.

17. (Previously Presented) A chemical product comprising a composite of claim 8.

18. (Previously Presented) A composite obtainable by a process according to claim 12.

19. (Previously Presented) The process according to claim 1, wherein the one or more blowing agents is selected from inorganic salts or organic compounds that are capable of decarboxylation.

20. (New) A process for the producing water-absorbent, foam-type polymer structures comprising the steps of

i) foaming an aqueous composition (A) by mechanical action, wherein the aqueous composition (A) comprises

(A1) water,

(A2) one or more polymers based at least on

($\alpha 1$) from about 55 to about 100 wt.% of a polymerized, monoethylenically unsaturated, acid-group-containing monomer or its salt thereof,

($\alpha 2$) from 0 to about 45 wt.% of a polymerized, monoethylenically unsaturated monomer that is copolymerizable with ($\alpha 1$),

wherein the sum of the amounts by weight of ($\alpha 1$) and ($\alpha 2$) is 100 wt.% and wherein at least about 31.5 wt.% of the monomers, based on the total weight of the monomers ($\alpha 1$) and ($\alpha 2$), are acrylic acid or salts of acrylic acid,

(A3) one or more crosslinkers,

(A4) one or more blowing agents,

(A5) one or more surfactants,

(A6) and optionally further auxiliary substances,

and

ii) heating the foamed aqueous composition of step i) to ~~is then heated at~~ a temperature in a range of from about 50 to about 300°C, so that the polymer (A2) crosslinks at least partially and the content of water (A1) is adjusted to not more than about 15 wt.%, based on the total weight of the foam-type polymer structure that forms.

21. (New) The process according to claim 20, wherein the foamed aqueous composition polymer has a number-average molecular weight of at least about 10,000 g/mol.
22. (New) The process according to claim 20, wherein the foamed composition has a foam liter weight of from about 10 to about 1000 g/l.
23. (New) The process according to claim 20, wherein the surface of the absorbent, foam-type polymer structure is smoothed in a further process step.
24. (New) A water-absorbent, foam-type polymer structure obtainable by a process according to claim 20.